



## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<b>(51) International Patent Classification <sup>7</sup> :</b> <b>C12N 15/12, C07K 14/47, 16/18, C12Q 1/68, G01N 33/53, A61K 38/17, 48/00, A01K 67/027</b>		<b>A2</b>	<b>(11) International Publication Number:</b> <b>WO 00/40719</b> <b>(43) International Publication Date:</b> 13 July 2000 (13.07.00)
<b>(21) International Application Number:</b> PCT/GB00/00003 <b>(22) International Filing Date:</b> 6 January 2000 (06.01.00) <b>(30) Priority Data:</b> 9900167.9 6 January 1999 (06.01.99) GB <b>(71) Applicant (for all designated States except US):</b> UNIVERSITY OF LEEDS [GB/GB]; Leeds LS2 9JT (GB). <b>(72) Inventors; and</b> <b>(75) Inventors/Applicants (for US only):</b> MARKHAM, Alexander, Fred [GB/GB]; Molecular Medicine Unit, Clinical Sciences Building, St. James University Hospital, Leeds LS9 7TF (GB). BONTHTON, David [GB/GB]; Molecular Medicine Unit, Clinical Sciences Building, St. James University Hospital, Leeds LS9 7TF (GB). <b>(74) Agent:</b> HARRISON GODDARD FOOTE; Belmont House, 20 Wood Lane, Leeds LS6 2AE (GB).		<b>(81) Designated States:</b> AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).  <b>Published</b> <i>Without international search report and to be republished upon receipt of that report.</i>	
<b>(54) Title:</b> WOUND HEALING AND OROFACIAL CLEFTING			
<b>(57) Abstract</b> <p>A nucleic acid molecule, fragment or derivative thereof which encodes a tissue repair protein wherein said isolated nucleic acid molecule, fragment or derivative thereof, has the nucleotide sequence of SEQ ID NO:1. The invention also discloses use of the protein, the production of antibodies thereto, reporter gene construct and the use of the nucleic acid, protein, antibodies and products there in diagnosing and treating orofacial clefting, tissue damage and/or for wound healing.</p>			
<pre>87 atggagcggcgggagcagagcccggtctgcgggacagcccgac 132 H E R R S E S P C L R D S P D 132 agcggcggcggcagcccgagcgtcaaggccctcccccgtagg R R S G S P D V K G P P P V K 177 gtggcccggtggagcagcagcggcagcccgtagggagcccgagg V A R L E Q N G S P M G A R G 222 aggcaccaagcggcggcggcagcagcggcgggaggtttgatgatt R P N G A V A K A V G G L M I 267 cctgtctttgtgtgtggagcaggttggaagcgtctcttgaatat P V F C V V E Q L D G S L E Y 312 gacacacagagagacacacgcggagttgtctgtggcgggaagat D N R E E H A S F V L H R R D 357 gtgcttttagcagcgtgtgtgagactggtcctgtgcccctgggg V L F S Q L V E T A L L A L G 402 tattctcacagctctggtggccagggcccaaggaataatcaagctg Y S H S S A A Q A Q G I I K L 447 qgaaggtggagccctctccccctcagttatgtgacagatgcaccc G R W N F L P L S Y V T D A P 492 gacgagcagtggtggcagcatgtacaagatgtctatcatgtgtg D A T V A D M L Q D V Y H V V 537 acgttgaaatccaattacaagttgttcaagttggaagcgttg T L K I Q L Q S C S K L E D L 582 cctgcggagcagtggaaccatgacagcgtccgcaatgccttaag P A E Q W N H A T V R N A L K 627 gaactgtctcaagagatgaacacagacacattagccaagaatgc E L L K E M N Q S T L A K E C 672 cctctctccagagattgatttcattgttaatagcacatat P L S Q S M I S S I V N S T Y 717 tatgccaatgtgtcagcacaacagtgccaggtttggagatgg Y A N V S A T K C Q E F G R W 762 tatanaagtcacagaagattcaagtggaagagtggaacgagaa Y K K Y K K I K V E R V E R E 807 aacotttcagactattgtgtctgggcccagcgtccaatgcattta N L S D H C V L G Q R P H L 852 ccaatatgacacagctgggtccctgggggaacccaagcag P N M N Q L A S L G K T N E O 897 tctcctcagcagcaattccacacagtaactccaatccgaaccaa S P H S Q I H H S T P I R N Q 942 gtgcgcgcattacagcccatctgagccctgtgtttttctctcc V P A L Q P I M S P G L L S P 987 cagcttagtccacaactgttaaggcaacaatagccatggcccat Q L S P Q L V R Q Q I A N A H 1032 ctgataacacacagattgctgttagcgggtcctgtggtcaccag L I N Q Q I A V S R L L A H Q 1077 catctcagcagcatcaacagcagttcctgaaccatccaccatc H P Q A T I N Q Q F L N H P I 1122 cccagagcagtttaagcagcagcacaactcttctgtggaagtc P R A V K P E P T N S S V E V 1167 tctccagctatctacacagcagtcagcagtgagctgagggggcc S P D I Y Q Q V R D E L K R A 1212 agtgtgtcccaagctgttcttgcagagtggtcattcaacgcaca S V S Q A V F A R V A F N R T 1257 cagggtattgtgtctgagctctgctgaagggaagacccctcgg Q G L L S E I L R K E E D P R 1302 acagcctctcagctctctcagtaaacctgagggtccatgcagaat T A S Q S L L V N L R A M Q N</pre>			